

Work Order ID 70199

Tuesday, May 31, 2011 10:45:14 AM



Page 1

Item ID: D205-596-107

Accept



Setup Start



Revision ID:

Item Name: Crosstube Aft Extended

Stop



Start Date: 5/31/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 6/16/2011 Req'd Qty: 1.00



Customer:

Reference:

Approvals:

Process Plan:

[Signature]

Date: 11-05-31

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D205-596

Rev B

SP

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D205-594 bluefile & type labels per PPP D205-596-107 CHG002

[Signature] 13-7-4

110

0.00



BENDING MACHINE - CROSSTUBES

CNC Bend 2

Memo

0.00

CNC Alpha 160 Bender

1- Bend as per Dwg D2890 using CNC bender program D2890
2- Mark cut lines as per dwg D205-596-107

[Signature] 13-05-28

130

QC15- Crosstube Dimensional Check

0.00



QC

Memo

0.00

Quality Control



13/05/28

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140 Crosstubes	Crosstubes	0.00							
	Memo	0.00							
	1-Cut as per dimension sheet 2-Deburr & Inspect for surface damage. Polish cut surface. Scribe part # and batch # on one end of tube.								
150 HandFXtube	Crosstubes Chemical Conversion HandFinishing	0.00							
	Memo	0.00							
	Chemical Conversion Coat per QSI 005 4.1								
160 Hand Finishing Crosstubes	QC8- Inspect part completeness to step on W/O	0.00							
	Memo	0.00							
	QC								
	Quality Control								

Rm 13-06-05

DAS 16 13/06/11 h229.7804

Rm 7mm 13-06-11

DAS 16 13/06/11

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
180 SprayPaint Spray Painting	SprayPaint Memo 1-Prime inside and outside with Immron per QSI 005 4.2 Prime 122888 T: 1100-1200 Paint 125986 T: 400-500	0.00 0.00				1	0	0	AI 13-6-24
190 QC Quality Control	QC14- Inspect Spray Paint Memo Quality Control	0.00 0.00				1			(DAS 05 9-88 13-6-25
200 Crosstubes Crosstubes	Crosstubes Memo 1- Lightly scuff the bonded area using a 320 grit sand paper and clean the area with 41058 wash 'n' wipe 2- Apply magnobond 6398 as per dwg D205-596-107 Magnobond 6398 Batch: 124886 EXP: 07/13 3-Inst Time: 9:00am	0.00 0.00				1			(DAS 05 9-88 13-6-27

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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210

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

① ② 13-07-03

~~Pick KIK~~~~IX~~~~SP13-7-4~~

220

Packaging

0.00



Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D205-596-107

Location: _____

PPP Rev: _____

1 8 13-7-5

230

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

13/7/5 7J

me
13-7-5

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Picklist Print

Tuesday, May 31, 2011 10:45:20 AM

Page 1

Work Order ID: 70199

Parent Item: D205-596-107

Parent Item Name: Crosstube Aft Extended






Start Date: 5/31/2011

Required Date: 6/16/2011

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:D005.03.21 Added bending procedure KJ/JLM
IPP Rev:E 08-01-10 ECN 1075 DD
IPP Rev F 08.04.28 Added bending & mat'l EC verified by: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2940-1  Support		Manufactured	No			200	Each	5.0000	2	2		13.02.27	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				LG052		5			96803				
					60271	5							
D6008-180  Crosstube Extrusion		Manufactured	No			110	Each	21.0000	1	1			
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				LG		21							
					46779	6							
					59249	15							
MS21920-28  Clamp(per MIL-DTL-8783C)		Purchased	No			200	Each	29.0000	4	4		man. 13/05/23 13.06.27	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				FG		5			125728				
					105884	5							
				LG050		24							
					116839	2							
					117344	22							

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Picklist Print

Page 2

Tuesday, May 31, 2011 10:45:20 AM

Work Order ID: 70199



Parent Item: D205-596-107



Parent Item Name: Crosstube Aft Extended

Start Date: 5/31/2011

Required Date: 6/16/2011

Start Qty: 1.00

Required Qty: 1.00

D3595-063-530

Manufactured

No

200

Each

42.0000

4

4



13.06.27

RUBBER CUSHION

Location

Loc Qty

Loc Code

LG055

42

101880

63407

6

67185

36

Tuesday, May 31, 2011 10:45:20 AM

Shop Packet Print

Page 2

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

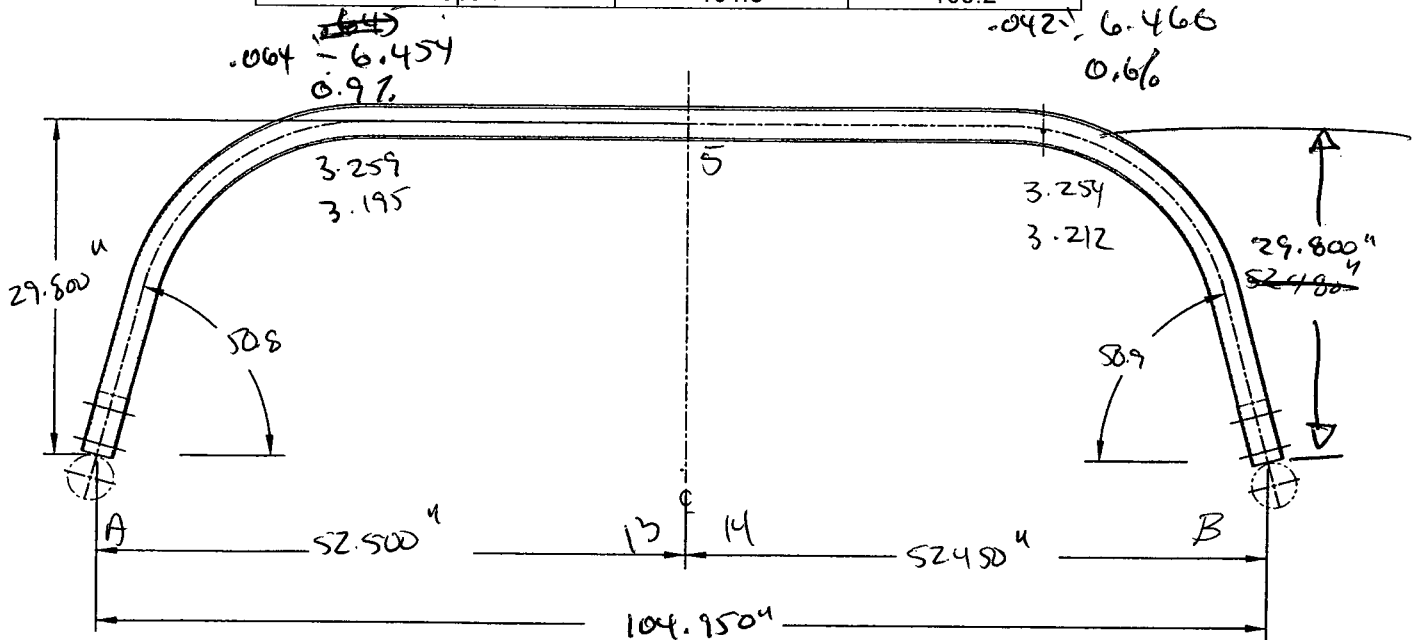
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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DART AEROSPACE LTD		Work Order:	70199
Description: Crosstube High-High Aft		Part Number:	D205-596-107
Inspection Dwg: D205-596-107 Rev: B		Page 1 of 1	

Required Dimension	Min	Max
Height	29.7	29.9
1/2 Span	52.4	52.6
Angle	49	52
Total Span	104.8	105.2



Comments
Side A = 0.97% crush @ 13 Passes
Side B = 0.6% crush @ 14 Passes

QC15 Inspection	DAS
Date	16 13/6/28

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	08.04.21	Dwg Rev updated	KJ/JM	

Dart Aerospace Ltd

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PARTS LIST:

Qty	Part Number	Description
X	D205-596-107	CROSSTUBE ASSEMBLY, HI-HI AFT
1	D6008-180	CROSSTUBE
2	D2940-1	SUPPORT
4	D3595-063-530	RUBBER CUSHION
4	MS21920-28	CLAMP
A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

- 1) MATERIAL: MANUFACTURE FROM D6008-180
FINISHED LENGTH = 127.28 ± 0.02
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART 005 4.2
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER AND BATCH NUMBER IN THIS AREA WITH
VIBRATING STYLUS
- 7) WEIGHT: 50 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE
- 9) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO
BENDING IS 6% BASED ON O.D.
- 10) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE
OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS
SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT
LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 11) APPLY A 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2940-1 THAT
WILL BE IN CONTACT WITH THE CROSSTUBE. LET CURE FOR 12 HOURS AFTER INSTALLATION
AND PRIOR TO PACKAGING.
- 12) INSTALL MS21920-28 CLAMPS WITH D3595-063-530 RUBBER CUSHIONS TO SECURE D2940-1
SUPPORT ON THE TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE
CROSSTUBE SUPPORT.
NOTE: IT IS ACCEPTABLE TO SUBSTITUTE MS21920-28 CLAMPS WITH LONGER OR SHORTER
MS21920-XX CLAMPS TO ACCOMMODATE VARYING DIAMETERS. ENSURE THERE IS A MINIMUM OF
1.5 THREADS IN SAFETY ON THE NUTS.
- 13) TORQUE CLAMPS 80 TO 100 IN-LB

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 70199
11-05-31

DEO ATTACHED

RELEASED
01-01-16 WJ

B	SUPPORT NOW MAGNOBONDED; REMOVE D2856-600-1009 ABRASION STRIP; UPDATED NOTES; ADDED D3595-063-530 CUSHION	MB	07.12.03
A	NEW ISSUE	DS	02.11.20
REV.	DESCRIPTION	BY	DATE
DESIGN	<u>4</u>	DART AEROSPACE LTD	
DRAWN	<u>4</u>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<u>PH</u>	DRAWING NO.	REV. B
MFG. APPR.	<u>PH</u>	D205-596-107	SHEET 1 OF 2
APPROVED	<u>PH</u>	TITLE	SCALE
DE APPR.	<u>PH</u>	CROSSTUBE ASSEMBLY, HI-HI AFT	NTS
DATE	07.12.03	COPYRIGHT © 2002 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

Dart Aerospace Ltd

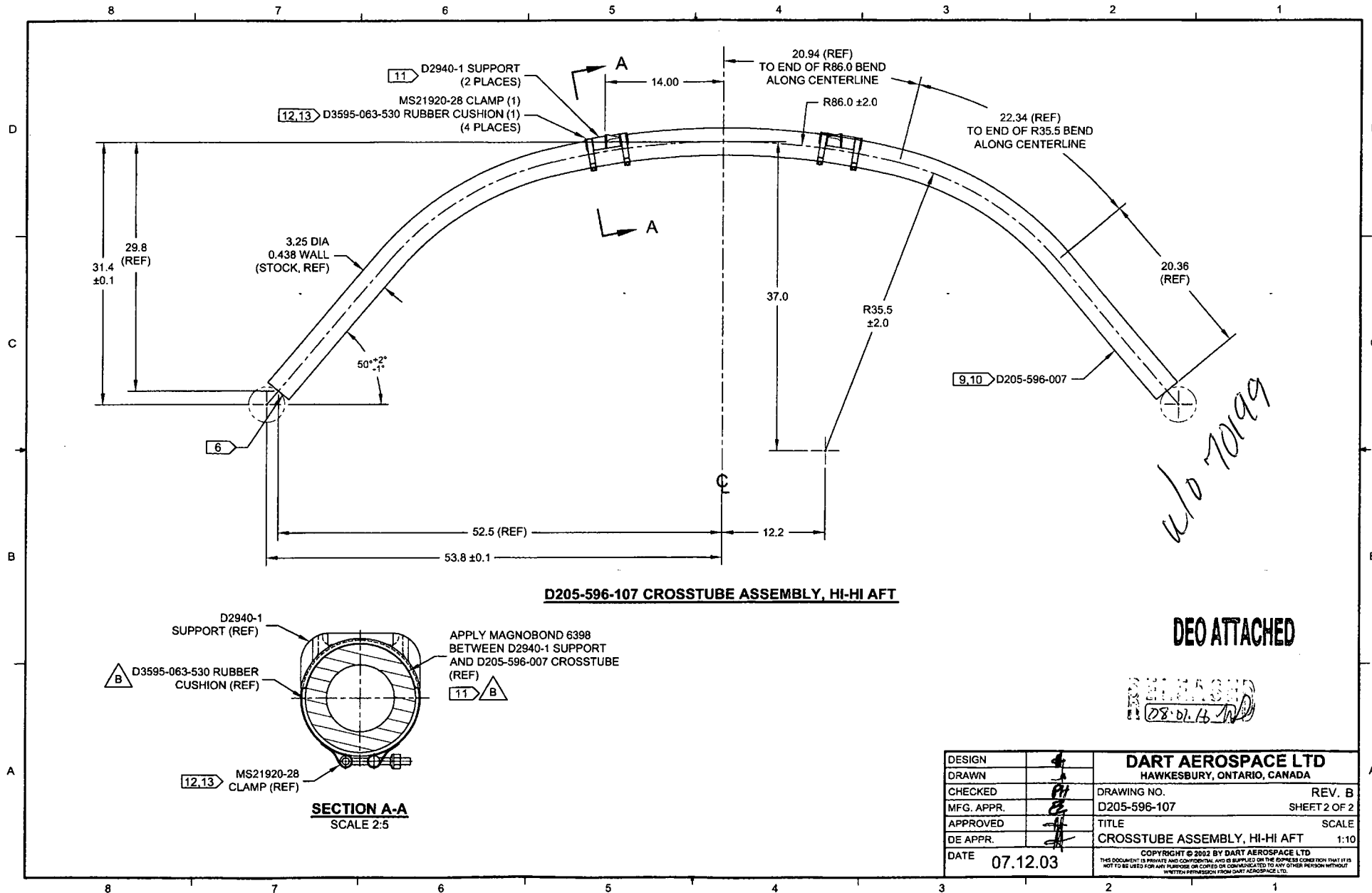
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DRAWING NO. D205-596-107	TITLE CROSSTUBE	REV. B	DART AEROSPACE LTD ENGINEERING ORDER		D.E.O. NO. D205-596-107-B-1	SHEET NO. SHEET 1 OF 1	SCALE NTS
DRAWN <i>(1)</i>	CHECKED <i>PH</i>	MFG. APPR. <i>CE</i>	APPROVED <i>MD</i>		DE APPR. <i>#</i>		
DATE 09.05.01	DATE 09.05.15	DATE 09.06.15	DATE 09/06/16		DATE 09/06/16		

CHANGE:

ADD THE FOLLOWING CROSSTUBE ASSEMBLY:

Part Number	Description
D205-596-107B	CROSSTUBE ASSEMBLY (214 HI-HI AFT)

THE D205-596-107B CROSSTUBE HAS THE SAME PARTS LIST AS THE D205-596-107 CROSSTUBE. HOWEVER, INSTALL THE SUPPORTS AS SHOWN IN FIGURE 1 OF THIS ENGINEERING ORDER. THE NEW KIT IS OTHERWISE ASSEMBLED PER THE D205-596-107 CROSSTUBE.

RELEASED
09/06/16

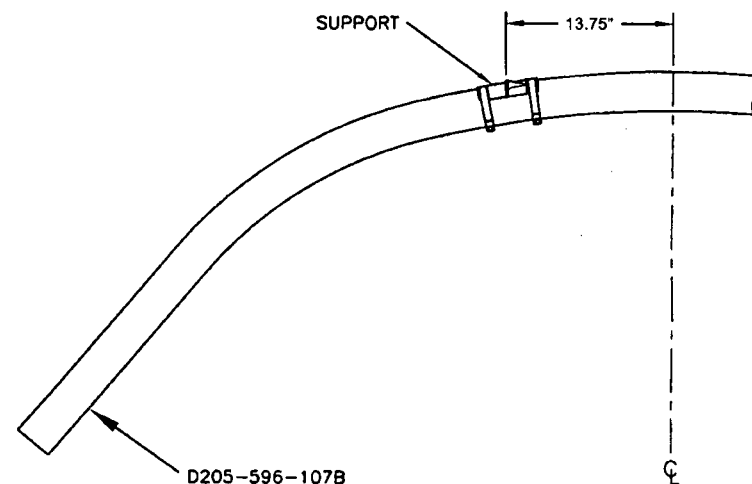


FIGURE 1 - SUPPORT INSTALLATION

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